IPETRONIK

IPEMOTION
Software

# Velleman-K8055 PlugIn

**September 2013**

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# 1 Important and general information

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Please follow the instructions **and** information as contained in the user manual!

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   - by an potential malfunction of the IPETRONIK system during the test drive.
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   Please check the following points to avoid errors:

   - Adaption of sensors to components of the electrical system / electronics, brake system, engine and transmission control, chassis, body.
   - Tap of one or several bus systems (CAN, LIN, ETHERNET) including the required electrical connection(s) for data acquisition.
   - Communication with the vehicle's control units (ECUs), especially with such of the brake system and/or of the engine and transmission control (power train control system).
   - Installation of components for remote data transmission (mobiles, GSM/GPRS modems, WiFi and Bluetooth components).
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## 1.2 General information

### 1.2.1 About this manual

This manual describes how to use the Velleman K8055 evaluation board together with the IPEmotion data acquisistion software. The Velleman-K8055 PlugIn is a driver for the IPEmotion data acquisition software. With the PlugIn users can operate all IOs of the K8055 Board though this DAQ software. IPEmotion is supporting also plenty of control functions so home automation functions can be covered as well.

### 1.2.2 Version

This manual has the version number V01 released [09] [2013] © **All rights reserved !**

This manual war written according to PlugIn Version: V02.01.00.21162

### 1.2.3 Legend of used icons

***Tip*** *This icon indicates a useful tip that facilitates the application of the software.*

***Information*** *This icon indicates additional information for a better understanding.*

***Attention!*** *This icon indicates important information to avoid potential error messages.*

### 1.2.4 Support

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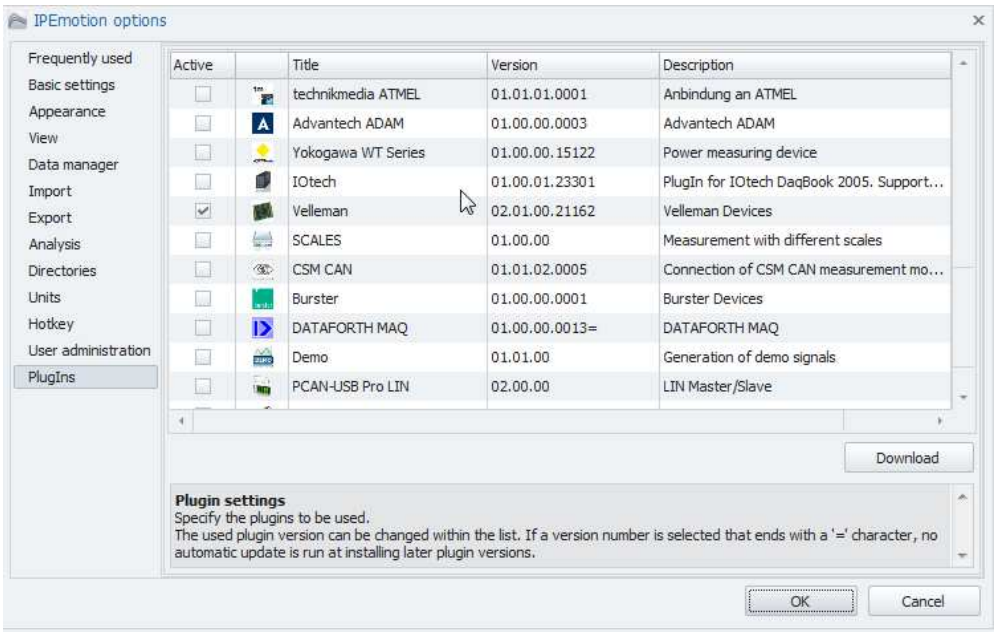
# 2 Overview of the PlugIn

## 2.1 PlugIn Installation

The Velleman-K8055 PlugIn is hosted on the IPETRONIK website www.ipetronik.com. After having installed the PlugIn, you need to restart IPEmotion. A message window will notify you, telling that a new PlugIn was found. After activation, the PlugIn can be used for data acquisition. In general, all PlugIns are managed in the OPTIONS of IPEmotion.




There is no need to install any board-specific USB drivers. The board is automatically identified as a standard USB interface device like mouse or keyboard.

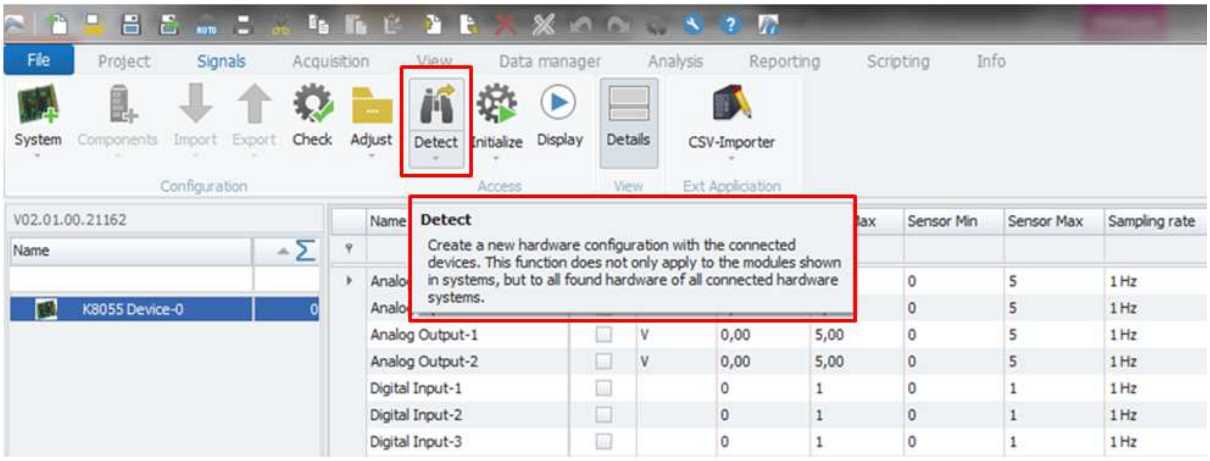
The following boards are supported:

- K8055
- K8055N
- VM110
- VM110N

## 2.2 PlugIn Configuration

### 2.2.1 Automatic Hardware detection

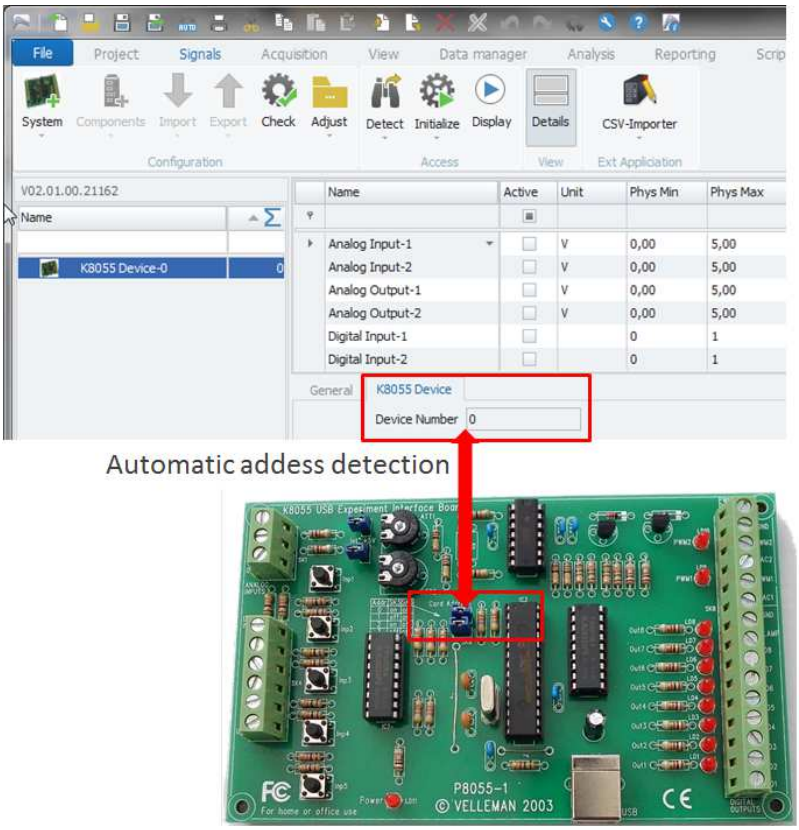
IPEmotion provides functions for automatic hardware detection. For USB devices like the K8055 board it is very comfortable to use the automatic hardware detection to set up a communication with the board.




After the automatic hardware detection, all IO channels of the board are automatically created

### 2.2.2 Board address and jumper settings

The address of the board is specified through a jumper setting as the following pictures indicate. The board can have up to 4 different address numbers (0, 1, 2, 3). Up to 4 boards can be operated simultaneously with IPEmotion. It is not possible to communicate with 2 boards having the same address. When the jumper setting is changed on the board, the board must be disconnected from the USB interface (power OFF /ON) to make the new setting effective.



After updating the board address, users can either run an additional hardware detection to reconnect to the board with the new address or they can just type in the board number in the K8055 device tab sheet to start the communication.

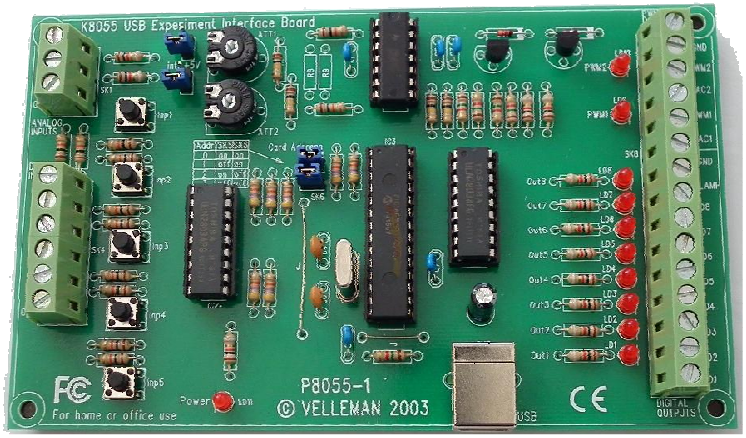
### 2.2.3 Sample rate settings

The sample rate can be configured individually on channel level.

| Analog Input / Output | Digital Input / output / Counter |
|---|---|
| 1 Hz | 1 Hz |
| 2 Hz | 2 Hz |
| 5 Hz | 5 Hz |
| 10 Hz | 10 Hz |
| 50 Hz | |

# 3 Board IO overview

## 3.1 Picture of the board




## 3.2 Specification of the board

- 5 digital inputs (0= ground, 1= open) (on board test buttons provided)
- 2 analog inputs with attenuation and amplification option (internal test + 5 V provided)
- 8 digital open collector output switches (max. 50 V/100 mA) (on board LED indication)
- 2 analog outputs:
- 0 to 5 V, output resistance 1K5
- PWM 0 to 100 % open collector outputs max 100 mA / 40 V (on board LED indication)
- general conversion time: 20 ms per command
- power supply through USB: approx. 70 mA
- dimensions: 145 x 88 x 20 mm / 5.7 x 3 x 0.8 "